

WHAT IS CLAIMED IS:

1. An air conditioning system comprising a variable displacement compressor, a condenser, an expansion valve, and an evaporator,

5 characterized in that said variable displacement compressor includes a proportional flow rate control solenoid valve responsive to an external signal for changing an area of a discharge-side or suction-side refrigerant flow passage, and a constant differential
10 pressure valve for controlling a flow rate of refrigerant introduced from a discharge chamber into a crank chamber or refrigerant permitted to escape from said crank chamber to a suction chamber such that a differential pressure developed across said proportional flow rate control
15 solenoid valve is constant, to thereby control refrigerant delivered to said condenser to a constant flow rate, and

that said expansion valve is a normal charge-type expansion valve.

20 2. An air conditioning system comprising a variable displacement compressor, a condenser, an expansion valve, and an evaporator,

characterized in that said variable displacement compressor includes a capacity control valve for
25 controlling a flow rate of refrigerant introduced from a discharge chamber into a crank chamber or refrigerant permitted to escape from said crank chamber to a suction

chamber, such that a differential pressure between a discharge pressure and a suction pressure becomes a constant differential pressure set by an external signal, and

5 that said expansion valve is a normal charge-type expansion valve.

3. An air conditioning system comprising a variable displacement compressor, a condenser, an expansion valve,
10 and an evaporator,

characterized in that said variable displacement compressor includes a capacity control valve for controlling a flow rate of refrigerant introduced from a discharge chamber into a crank chamber or refrigerant
15 permitted to escape from said crank chamber to a suction chamber, such that a differential pressure between a discharge pressure and a pressure in said crank chamber becomes a constant differential pressure set by an external signal, and

20 that said expansion valve is a normal charge-type expansion valve.